End of Result Set

L34: Entry 1 of 1 File: USPT Apr 9, 1996

DOCUMENT-IDENTIFIER: US 5505532 A
TITLE: Skid control system

Detailed Description Text (7):
Sensor means 40, 41, 42 and 43 are provided to the front-left road-wheel 44, the front-right road-wheel 41, the rear-left road-wheel 46 and the rear-right road-wheel 47, respectively, in order to feed signals relating to the conditions thereof to the electric control unit 23. Each sensor means 40/41/42/43 includes a vehicle speed sensor 48 and a load sensor 52 (FIG. 3). As shown in FIG. 3, the vehicle speed sensor 48 is set to detect the rotational speed of each road wheel and the resulting speed is fed as pulse signals SP to the control unit 23. The load sensor 52 is set to detect a load F applied to each road-wheel. This load sensor 52 can be used as an estimated load sensor which estimates the load on the basis of a sprung acceleration, an upsprung acceleration, a vehicle-height and a pressure from the suspension. In addition to the foregoing sensors, the control unit 23 is connected with a steering angle sensor 49 detecting a steering angle .delta. f, a yaw rate sensor 50 detecting a yaw rate .gamma., and an acceleration sensor 51 detecting accelerations GX and GY in the longitudinal and lateral directions, respectively, of the vehicle-body. The control unit 23 is also connected with a brake switch 62 which detects the depression of the brake pedal 10. On the basis of signals from the sensors 48 through 52, the control unit 23 is set to operate the motor 22a, and the electromagnetic valves 32 through 39.

Detailed Description Text (12):
The target slip rate calculating division 57 is set to calculate the target slip rate on the basis of the longitudinal acceleration GX, the lateral acceleration GY, the steering angle .delta. f, the real yaw rate .gamma., the load F and the estimated vehicle speed VSO. The detailed structure of the calculating division 57 is illustrated in FIG. 4.

Detailed Description Text (14):
The maximum vehicle speed V1 is obtained, at a maximum vehicle speed calculating unit 64, as the maximum value of the estimated vehicle speed VSO of each road-wheel. As for the yaw rate deviation .DELTA..gamma., first of all, a target yaw rate .gamma.* is obtained at a target yaw rate calculating unit 65 by using the following formula (2).

Detailed Description Text (15):
The yaw rate deviation .DELTA..gamma. is calculated at a .DELTA..gamma.-calculating unit 66 by using the following formula (3).

Detailed Description Text (19):
Thus, the obtained target slip rate S01 is restricted at a slip rate restricting portion 80 to which a product of the maximum vehicle speed VS1 and the absolute value of the yaw rate deviation .DELTA..gamma. obtained at the calculating division 67 is provided. At the rate restricting portion 80, a rate .alpha. is obtained with reference to a graph shown in FIG. 7 depending on the value of the foregoing product. The resulting rate .alpha. is multiplied with the target slip rate S01 for the calculation of the target slip rate S01. The target slip rate S01 is decreased as the maximum vehicle speed VS1 increases or the absolute deviation of the yaw rate deviation .DELTA..gamma. increases. Thus, so long as the steering operation is in coincidence with the actual turning motion of the vehicle, the foregoing control for

changing the maximum deceleration is established. If the steering operation becomes out of coincidence with the actual turning motion of the vehicle, the target slip rate is set to be decreased for effecting the cornering force.

Detailed Description Text (28):
The initiation slip rate S1, the prohibit slip rate ATHITA, the road-wheel acceleration DVW, the road-wheel speed VW and the estimated vehicle speed VS0 are so fed to the initiation recognition portion 553 as to check whether the condition for the initiation is established or not. First of all, the estimated vehicle speed is differentiated for obtaining an estimated vehicle acceleration DVS0. Next, by using the formula (5), a speed deviation .DELTA.V is calculated. In addition, on the usage of the formula (6), an acceleration deviation .DELTA.DV is calculated. Furthermore, an inhibit speed TTHITA is calculated by using the formula (7).

Detailed Description Text (33):
Further, regardless of the acceleration deviation .DELTA.DV, if the speed deviation .DELTA.V is not greater than the inhibit speed THITA, the initiation of the control is prevented. As mentioned above, the inhibit speed THITA is a function of the vehicle speed VS0 and the prohibit slip rate ATHITA. As the vehicle speed or the prohibit slip rate ATHITA increases, the inhibit speed THITA increases. This results in that a region within which the control is to be initiated becomes narrow, which leads to the poor sensitivity of the initiation of the control.

Detailed Description Text (39):
As mentioned above, the initiation slip rate setting portion 551 and the prohibit slip rate portion 552 serve for adjusting the sensitivity of the initiation of the control with reference to graphs shown in FIGS. 10 and 11. In FIG. 10, between lines D and E, the gain is 100% and the speed deviation .DELTA.V is sufficiently less than the prohibit speed THITA, resulting in that no control is initiated. Between lines E and H, as the load decreases the less sensitivity of the initiation of the control is set to be established. Thus as the load decreases, the sensitivity of the initiation of the control becomes poor. If the load is less than a set value, no control is initiated. Alternative methods can be available for obtaining the foregoing result. That is, a higher slip rate can be set depending on the load decrease without setting of 100% slip rate upon no load. In addition, by letting F1=F2 in order to delete a region for establishing poor sensitivity gradually, rapid establishment of less sensitivity of the initiation of the control when the load is less than a value is available. In the foregoing, the time when the initiation is to be established is obtained on the basis of the vehicle speed deviation .DELTA.V and the vehicle acceleration deviation .DELTA.DV, only one of them can be used for the calculation of the time.

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L31: Entry 1 of 7 File: PGPB Feb 28, 2002

DOCUMENT-IDENTIFIER: US 20020026276 A1
TITLE: Vehicle operation control method and apparatus that controls deceleration of a vehicle

Detail Description Paragraph (27):
[0057] During the cruise control, the brake control actuator 50 is controlled so that the actual deceleration .alpha.n detected by the deceleration sensor 44 approaches a desired brake target deceleration .alpha.nB received from the engine ECU 14. During a vehicle stability control, the brake control actuator 50 is controlled so that the behavior of the vehicle remains in a stable state based on the steering angle, the yaw rate, etc. The brake ECU 16 is an ECU for controlling the brake control actuator. As a brake ECU, it is possible to use an ECU that performs a specific control, such as an ABSECU (antilock brake ECU), a VSCECU (vehicle behavior ECU), etc.

Detail Description Paragraph (30):
[0060] The deceleration sensor 44 is a sensor for detecting the deceleration of the vehicle. In this embodiment, the deceleration is expressed as a positive value. If the acceleration is expressed as a negative acceleration as in a conventional manner, a great deceleration in this embodiment means a small negative acceleration, that is, a great absolute value of the acceleration (equal to the deceleration herein). The wheel speed sensors 48 detect rotation speeds of the individual wheels. In this embodiment, a slip state of each wheel is detected based on the rotation speed of the individual wheels and an estimated vehicle body speed determined based on the speeds of wheels that are not drive wheels. The temperature sensor 49 detects the temperature of the brake control actuator 50.

Detail Description Paragraph (51):
[0079] If the deceleration deviation .DELTA..alpha.n is greater than "0", the degree of throttle opening is reduced. More specifically, the throttle control device 36 feedback-controls the degree of throttle opening so that the actual deceleration .alpha.n approaches the target deceleration .alpha.*n. When the deceleration deviation .DELTA..alpha.n reaches at least a 0th threshold .DELTA..alpha.s0, the degree of throttle opening is set to "0" (completely closed). When the deceleration deviation .DELTA..alpha.n reaches at least a 1st threshold .DELTA..alpha.s1, the shifting of the speed ratio to the fifth speed is prohibited (overdrive-cut). That is, if the present speed ratio is the fifth speed, the speed ratio is shifted down to the fourth speed.

Detail Description Paragraph (92):
[0120] In S91, it is determined whether the brake request presence information has been received. In S92, it is determined whether an automatic brake actuation permitting condition is met. The automatic brake actuation permitting condition is met, (a) if the temperature of a solenoid of the pressure control valve 50 is lower than a set temperature, or (b) if the slip state of each wheel is on a stable side of a set state. If the automatic brake actuation incurs a danger of degradation of running stability of the vehicle, the automatic brake actuation is prohibited. The automatic brake actuation is also prohibited if the brake device 54 is in a state where continuation of application of the brake is not desirable. If the automatic brake actuation permitting condition is met, the process proceeds to S93, in which a supply current I to the coil 104 of the pressure control valve 50 is determined so as to achieve the desired brake target deceleration .alpha.*nB, and the brake liquid pressure is controlled to a magnitude corresponding to the supply current I. The desired brake target deceleration .alpha.*nB remains fixed during one performance of

the automatic braking as mentioned above.

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L3: Entry 3 of 18 File: USPT Jun 18, 2002

DOCUMENT-IDENTIFIER: US 6408241 B1
TITLE: Method and system for controlling vehicle speed based on vehicle yaw rate and yaw acceleration

Detailed Description Text (6):
As the ACC equipped vehicle (6) continues through the curve, if the sensed vehicle yaw rate exceeds the yaw rate threshold, the vehicle speed is limited to the lower, second maximum allowed vehicle speed value. If the vehicle speed is then greater than the second maximum allowed vehicle speed, the vehicle speed is reduced, such as by throttle control, brake control, or a combination of both. In that case, the vehicle operator may experience a somewhat abrupt and/or uncomfortable vehicle deceleration.

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L3: Entry 13 of 18 File: USPT Nov 12, 1985

DOCUMENT-IDENTIFIER: US 4552239 A
TITLE: Four-wheel steering device for vehicle

Detailed Description Text (6):
In the embodiment shown in FIG. 2, the upper limit .theta.R' of the rear wheel turning angle .theta.R, i.e., the value of .theta.R at the inflection point, becomes larger as the vehicle speed increases in contrast with the embodiment of FIG. 1, though the inclination of the curve becomes larger as the vehicle speed increases as in the embodiment of FIG. 1. That is in this embodiment, the inflection point is shifted, as the vehicle speed increases, in the direction in which the value of .theta.F is reduced and the value of .theta.R is increased. In accordance with this embodiment, the difference between the front wheel turning angle .theta.F and the rear wheel turning angle .theta.R becomes larger as the vehicle speed is reduced since the upper limit .theta.R' of the rear wheel turning angle .theta.R becomes smaller as the vehicle speed is reduced. Accordingly, the lower the vehicle speed is, the larger the yaw rate is. This is advantageous in that in most cases where orientation of the vehicle is to be changed by a large amount, the vehicle speed is low.

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L3: Entry 8 of 18 File: USPT Feb 15, 2000

DOCUMENT-IDENTIFIER: US 6024381 A
TITLE: Simulator for teaching vehicle speed control and skid recovery techniques

Brief Summary Text (16):
When the vehicle on which the apparatus of the invention is mounted is being driven in a straight path, the freely castering rear wheels will trail in a straight path. When there is a change in lateral position, such as that which occurs when entering a curve or making a turn, the rear castering wheels will continue to travel in a straight direction causing a lateral acceleration resulting in a rear yaw. The lateral acceleration, or yaw rate, will increase in proportion to the vehicle's velocity and the rate of change in lateral positioning. Therefore, with the invention apparatus and a designed series of learning activities, the driver is able to experience the importance of reducing speed as the primary method to avoid losing control of the vehicle, before entering a situation that places a critical demand upon rolling traction to maintain steering control. Such situations primarily occur while entering curves and turns.

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	DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ		
L8	l7 and vehicle	13	L8
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L6	L5 near l4	40807	L6
L5	(path or road or route or segment or track)	2429310	L5
L4	(future or predectit$3 or select$3)	3159297	L4
L3	L2 same l1	18	L3
L2	yaw rate	4309	L2
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L37	l2 same l12	2	L37
L36	L35 and yaw	0	L36
L35	L12 same l27	9	L35
L34	L33 and yaw	1	L34
L33	l12 same l28	42	L33
L32	l12 same yaw	3	L32
L31	L30 and yaw	7	L31
L30	L29 and l12	168	L30
L29	L28 or l27	392995	L29
L28	slip$6	383177	L28
L27	anti$1skid	13783	L27

L26	L25 and l12	0	L26
L25	attribute$1 near l4	1078	L25
L24	L23 and l12	2	L24
L23	L22 or l21	7374	L23
L22	(l4 or street or lane or roadway) near (description or characteristic)	5204	L22
L21	(l4 or street or lane or roadway) near profile	2237	L21
L20	L19 and l12	0	L20
L19	(detect$3 or sens$3 or monitor$3 or identif$4) near segment	9211	L19
L18	L17 not l14	21	L18
L17	L16 and l12	26	L17
L16	(detect$3 or sens$3 or monitor$3 or identif$4) near l3	31343	L16
L15	l12 and l2	12	L15
L14	l12 and l1	15	L14
L13	L12 and l7	0	L13
L12	(prohibit$3 or inhibit$3) near l5	1223	L12
L11	(prohibit$3 or inhibit$3) near l6	0	L11
L10	l6 and l1	6	L10
L9	l2 and l6	0	L9
L8	L7 and l6	0	L8
L7	(future or predict$3) near l3	1532	L7
L6	resume near l5	251	L6
L5	speed or velocity	2236352	L5
L4	L3 or segment	2103714	L4
L3	route or path or road	1756967	L3
L2	yaw rate	4309	L2
L1	navigation or gps	424944	L1

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L14: Entry 10 of 15 File: USPT Jan 20, 1998

DOCUMENT-IDENTIFIER: US 5710565 A
TITLE: System for controlling distance to a vehicle traveling ahead based on an adjustable probability distribution

Brief Summary Text (48):
A navigation system using a GPS (Global Positioning System) may be provided. When the target preceding vehicle selecting means determines that the curve exists in a forward direction based on data provided by the navigation system, the objects located at a given distance away from the system vehicle are not selected as the target preceding vehicle.

Brief Summary Text (59):
The speed control means prohibits the speed of the system vehicle from increasing until the intervehicle distance to the target preceding vehicle exceeds the target intervehicle distance determined by the target intervehicle distance determining means by a given distance.

Detailed Description Text (179):
A navigation system using a GPS (Global Positioning System) may be incorporated in the intervehicle distance control system 2. Using map information of the navigation system derived based on current positional data of the system vehicle from the GPS, it is possible to determine whether a curve exists in a forward direction of the system vehicle or not. If the curve exists in the forward direction, distant objects located at a given distance away from the system vehicle may not be determined as preceding vehicles. This determination is preferably made before or after step 5030 in FIG. 12. This prevents the instantaneous same lane probability P0 from being increased to perform the intervehicle distance control undesirably, which is caused by the fact that a vehicle traveling in an adjacent lane on a curved road ahead of the system vehicle traveling straight is detected as existing substantially in front of the system vehicle.

CLAIMS:

37. A system as set forth in claim 1, further comprising a navigation system using a GPS (Global Positioning System), and wherein when said target preceding vehicle selecting means determines that the curve exists in a forward direction based on data provided by the navigation system, the objects located at a given distance away from the system vehicle are not selected as the target preceding vehicle.

48. A system as set forth in claim 23, wherein said speed control means prohibits the speed of the system vehicle from increasing until the intervehicle distance to the target preceding vehicle exceeds the target intervehicle distance determined by said target intervehicle distance determining means by a given distance.

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L15: Entry 12 of 12 File: DWPI Jan 7, 2003

DERWENT-ACC-NO: 2001-283752
DERWENT-WEEK: 200306

TITLE: Speed ratio control device for use with vehicle, includes microprocessor which is programmed to prohibit speed change operation by actuator, when vehicle dynamic controller is operating

Basic Abstract Text (1):
NOVELTY - An actuator (4) changes the speed ratio of continuously variable transmission (10), and a microprocessor (61) is programmed to determine whether the vehicle dynamic controller (VDC) (350) is operating or not and prohibits the speed change operation by the actuator (4), when the VDC is operating. The controller (350) controls the vehicle yaw rate of vehicle.

Basic Abstract Text (4):
ADVANTAGE - Prevents loss of vehicle behavior control performance by prohibiting the speed change of automatic transmission. The gears are changed over automatically between several gear positions according to vehicle running state.

Equivalent Abstract Text (6):
NOVELTY - An actuator (4) changes the speed ratio of continuously variable transmission (10), and a microprocessor (61) is programmed to determine whether the vehicle dynamic controller (VDC) (350) is operating or not and prohibits the speed change operation by the actuator (4), when the VDC is operating. The controller (350) controls the vehicle yaw rate of vehicle.

Equivalent Abstract Text (9):
ADVANTAGE - Prevents loss of vehicle behavior control performance by prohibiting the speed change of automatic transmission. The gears are changed over automatically between several gear positions according to vehicle running state.

Equivalent Abstract Text (15):
NOVELTY - An actuator (4) changes the speed ratio of continuously variable transmission (10), and a microprocessor (61) is programmed to determine whether the vehicle dynamic controller (VDC) (350) is operating or not and prohibits the speed change operation by the actuator (4), when the VDC is operating. The controller (350) controls the vehicle yaw rate of vehicle.

Equivalent Abstract Text (18):
ADVANTAGE - Prevents loss of vehicle behavior control performance by prohibiting the speed change of automatic transmission. The gears are changed over automatically between several gear positions according to vehicle running state.

Equivalent Abstract Text (35):
NOVELTY - An actuator (4) changes the speed ratio of continuously variable transmission (10), and a microprocessor (61) is programmed to determine whether the vehicle dynamic controller (VDC) (350) is operating or not and prohibits the speed change operation by the actuator (4), when the VDC is operating. The controller (350) controls the vehicle yaw rate of vehicle.

Equivalent Abstract Text (38):

ADVANTAGE - Prevents loss of vehicle behavior control performance by prohibiting the speed change of automatic transmission. The gears are changed over automatically between several gear positions according to vehicle running state.

Standard Title Terms (1):
SPEED RATIO CONTROL DEVICE VEHICLE MICROPROCESSOR PROGRAM PROHIBIT SPEED CHANGE OPERATE ACTUATE VEHICLE DYNAMIC CONTROL OPERATE

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L18: Entry 20 of 21 File: DWPI Oct 20, 2000

DERWENT-ACC-NO: 2001-012778
DERWENT-WEEK: 200102

TITLE: Control apparatus for hybrid electric vehicle, gives priority to shift-down demand of shift switch, to prohibit speed change of transmission, when gradient of detected downhill path is more than preset value

Basic Abstract Text (1):
NOVELTY - A control unit gives priority to shift-down demand of shift switch (11) to prohibit speed change of transmission (3) installed between motor (1) and driving wheel (4), when gradient of downhill path detected by gradient detector (8) is more than preset value.

Standard Title Terms (1):
CONTROL APPARATUS HYBRID ELECTRIC VEHICLE PRIORITY SHIFT DOWN DEMAND SHIFT SWITCH PROHIBIT SPEED CHANGE TRANSMISSION GRADIENT DETECT DOWNHILL PATH MORE PRESET VALUE